What is Claimed Is:

1. A method of testing a network device under test having a media access controller configured for generating random numbers for idle intervals in response to sensed collisions, respectively, the method comprising:

attempting transmission, by the network device under test, of data packets onto a network
5   medium;

generating the collisions in response to each attempted transmission of the data packet;

identifying time intervals that the network device under test is transmitting on the network medium relative to the idle intervals; and

determining a randomness of the idle intervals based on a prescribed minimum number of the
10 identified time intervals.

2. The method of claim 1, wherein the step of generating the collisions includes connecting a physical layer transceiver, coupled to the network device under test, in a loopback mode for simultaneous transmission and reception of each attempted transmission of the data packet.

3. The method of claim 2, wherein the network device under test is coupled to a physical layer transceiver via an exposed media independent interface, the identifying step including detecting an asserted carrier sense signal on the exposed media independent interface by a connected logic analyzer, and storing the corresponding time interval for the asserted carrier sense signal.

4. The method of claim 3, wherein the determining step includes correlating the idle intervals relative to the identified time intervals and based on a determined access attempt.

5. The method of claim 1, wherein the step of generating the collisions includes connecting to the network medium a packet generator configured for outputting onto the network medium a colliding packet in response to detection of each attempted transmission of the data packet.

6. The method of claim 5, wherein the identifying step includes detecting, by a logic analyzer, an asserted carrier sense signal generated onto an exposed media independent interface by a physical layer transceiver connected to the network medium, the network analyzer storing the corresponding time interval for the asserted carrier sense signal.

8

7.   The method of claim 6, wherein the determining step includes correlating the idle intervals relative to the identified time intervals and based on a determined access attempt.

8.   The method of claim 6, wherein the physical layer transceiver is coupled via the exposed media independent interface to a second media access controller separate from the network device under test.

9.   The method of claim 6, wherein the network device under test, the physical layer transceiver, and the packet generator are interconnected to the network medium via a hub.

10.   A testing system for testing a network device under test having a media access controller configured for generating random numbers for idle intervals in response to sensed collisions, respectively, the testing system comprising:

a collision generator configured for generating a collision in response to each attempted transmission of a data packet by the network device under test; and

an analyzer configured for identifying time intervals that the network device under test is transmitting on the network medium, the analyzer determining a randomness of the idle intervals based on a prescribed minimum number of the identified time intervals.

11.   The system of claim 10, wherein the collision generator includes a physical layer transceiver configured in a loopback mode for identification of said each attempted transmission of the data packet as the corresponding collision.

12.   The system of claim 11, wherein the physical layer transceiver is coupled to the network device under test via an exposed media independent interface, the analyzer configured for identifying the time intervals based on detecting an asserted carrier sense signal on the exposed media independent interface.

13.   The system of claim 10, wherein the collision generator includes a packet generator, coupled to a network medium, configured for outputting onto the network medium a colliding packet in response to detection of said each attempted transmission of a data packet on the network medium.

14. The system of claim 13, further comprising a physical layer transceiver coupled to the network medium and having an exposed media independent interface, the analyzer configured for identifying the time intervals based on detecting an asserted carrier sense signal on the exposed media independent interface.

15. The system of claim 14, wherein the physical layer transceiver is coupled via the exposed media independent interface to a second media access controller separate from the network device under test.

16. A testing system for testing a network device under test having a media access controller configured for generating random numbers for idle intervals in response to sensed collisions, respectively, the testing system comprising:

a collision generator configured for generating a collision in response to each attempted
5   transmission of a data packet by the network device under test;

an analyzer configured for identifying time intervals that the network device under test is transmitting on the network medium; and

a processor configured for determining a randomness of the idle intervals based on a prescribed minimum number of the identified time intervals.

17. The system of claim 16, wherein the collision generator includes a physical layer transceiver configured in a loopback mode for identification of said each attempted transmission of the data packet as the corresponding collision.

18. The system of claim 17, wherein the physical layer transceiver is coupled to the network device under test via an exposed media independent interface, the analyzer configured for identifying the time intervals based on detecting an asserted carrier sense signal on the exposed media independent interface.

19. The system of claim 16, wherein the collision generator includes a packet generator, coupled to a network medium, configured for outputting onto the network medium a colliding packet in response to detection of said each attempted transmission of a data packet on the network medium.

20.   The system of claim 19, further comprising a physical layer transceiver coupled to the network medium and having an exposed media independent interface, the analyzer configured for identifying the time intervals based on detecting an asserted carrier sense signal on the exposed media independent interface.